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USSN: 09/882,363
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

ALEXANDER et al.

Serial No.: 09/882,363

Filed: June 15, 2001

Title: **ASSESSING THE CONDITION OF A JOINT
AND PREVENTING DAMAGE**

Examiner: J. Foreman

Art Unit: 3736

PRIOR ART SUBMISSION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Respectfully submitted on an accompanying form is a list of prior art believed to have a bearing on the patentability of claims in above-referenced application. The pertinency and the manner of applying this prior art to claims pending as of the date of this submission is believed to be as follows.

Independent Claim 57	Pertinency and Manner of Applying
<p>57. A method of estimating the change of cartilage in a joint, wherein the joint comprises articular cartilage, the method comprising the steps of</p> <p>(a) defining a 3D object coordinate system of the joint at an initial time, T1;</p> <p>(b) identifying a region of a cartilage defect or diseased cartilage within the 3D object coordinate system;</p> <p>(c) defining a volume of interest around the region of the cartilage defect or diseased cartilage whereby the volume of interest is equal to or larger than the region of cartilage defect or diseased cartilage, but does not encompass the entire articular cartilage;</p> <p>(d) defining the 3D object coordinate system of the joint at a second timepoint, T2;</p> <p>(e) placing the identically-sized volume of interest into the 3D object coordinate system at timepoint T2 using the object coordinates of the volume of interest at timepoint T1; and</p> <p>(f) measuring any differences in cartilage within the volume of interest between timepoints T1 and T2.</p>	<p>Kshirsagar et al. state that their software provides an opportunity to define a cuboid plug of cartilage centered about any point on the surface of the bone, and that thereafter the cartilage volume of that plug is automatically calculated. They go on to state that they made volume and thickness measurements at different locations on the surface of the femur, including at pressure-bearing regions (page 294, col. 2, line 11- page 295, col. 1, line 4). These measurements were then repeated (page 295, col. 1, lines 8-11), and differences between them were computed and presented in the form of coefficients of variation (page 296, table 1).</p> <p>Kshirsagar et al. state that measurement of the volume of confined cuboid plugs leads to a more reproducible volume measurement than does identical methodology used to measure total cartilage volume (page 295, col. 2, line 31 to page 296, col. 1, line 5). Later in their paper, Kshirsagar et al. state that the location of each plug is user-selectable and that, for longitudinal studies, several plugs can be positioned in those regions known to be most susceptible to damage (page 297, col.2, lines 12-15). Types of longitudinal studies noted include evaluation of disease progression, monitoring efficacy of drug treatments, and monitoring cartilage repair (page 289, col.2, lines 1-7).</p> <p>Taken together, these passages are pertinent to at least claim 57 and its dependents.</p>

Independent Claim	Pertinency and Manner of Applying
<p>36. A method of assessing the change of cartilage in a joint of a living mammal over time, the comprising the steps of</p> <p>(a) determining the thickness, width, area or volume of a region of cartilage at an initial time T_1;</p> <p>(b) determining the thickness, width, area or volume of a region of cartilage at a later time T_2;</p> <p>(c) determining the change in the thickness, width, area or volume of cartilage between the initial and later times;</p> <p>(d) electronically transferring an electronically generated image comprising the cartilage from a transferring device to a receiving device located distant from the transferring device;</p> <p>(e) receiving the transferred image at the distant location; and</p> <p>(f) converting the transferred image to a degeneration pattern.</p>	<p>Contrary to applicant's assertions made on page 8 of in their amendment mailed January 6, 2004, claims 36-43 do not appear to be entitled to the filing date of the 60/112,989 provisional application.</p> <p>Specifically, nowhere in the provisional application is there any mention of electronically transferring an electronically generated image comprising the cartilage from a transferring device to a receiving device located distant from the transferring device, receiving the transferred image at the distant location, and converting the transferred image to a degeneration pattern.</p> <p>The earlier-asserted Pelletier et al. patent is therefore a proper reference against claims 36-43, and is pertinent to at least claim 36 and its dependents for at least the reasons advanced by the examiner on page 3 of the Office Action mailed October 8, 2003.</p>

A copy of this notice has been sent to the owner of this application as provided for in 37 CFR § 1.33(c).



INFORMATION DISCLOSURE CITATION (Sheet <u>1</u> of <u>1</u>)	Docket Number (Optional)	Application Number 09/882,363
	Applicant Eugene Alexander et al.	
	Issue Date June 15, 2001	Art Unit 3736

U.S. PATENT DOCUMENTS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6,560,476	5/6/03	Pelletier et al.	600	410	11/1/2000

FOREIGN PATENT DOCUMENTS								
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION		
						YES	NO	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
		"Measurement of Localized Cartilage Volume and Thickness of Human Knee Joints by Computer Analysis of Three-Dimensional Magnetic Resonance Images"; Kshirsagar, Ashwini A. et al.; INVESTIGATIVE RADIOLOGY, vol. 33, no.5, pages 289-299, 1998.
EXAMINER	DATE CONSIDERED	